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Effective Methodology in Shopping Mart using QR Code

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Abstract: ***Today's shoppers are looking for more than just provided by websites. Malls have always been a destination .Shopping malls are the place where people get their requirements like food items, clothing, accessories, electrical appliances and so on. Malls are still considered a destination, but it's because they now offer amenities, Experiences to enhance shopping experience.***
Brick-and-mortar retail clearly isn't dead. Sometimes customers face the problem of having incomplete information about the products and have to waste their time at the billing counters by waiting for their turn to come. Continuous updation is required in the traditional billing system to advance the quality of shopping experience for the customers.
In addition, the process of obtaining the products is rather complicated as the shoppers must carry a basket each & every time for finding the products they want and place them into the basket, also has to deal with the calculation of the expenses. In order to solve all these problems, this paper presents the development of effective methodology in shopping mart using QR code.
In this smart shopping system, QR is provided to every product and hence shopper scan the QR code by QR code reader available in smartphone.
All the details of product are provided to shoppers through QR code. The scanned product id will be transferred to the managing staff .Thus, proposed system saves time & provide comfort by no longer waiting in the queue for paying the bill & checkout.
Keywords: smart shopping, QR code, QR reader, automatic billing, server communication.

I. INTRODUCTION

Now a days, the shopping mall is the place where people go to buy the products they need on a daily basis such as household products, food, clothing etc.
In today's world due to the increasing population, the shopping malls are fully crowded. Due to digitalization the shopping mall can offers specific attention to the customers for customer care service. The mall must undergo various technical & infrastructural changes to hold the title of "Smart mall". Smart malls are expected to deliver guaranteed & reliable connectivity & offer visual digital experience to all the customer.
Almost all shoppers today carry a smart mobile so matching those expectations of smart consumers to smart malls & developing loyalty by enhancing the shopping experience. Research believes that a shopping mall can be improved dramatically through the implementation of cutting-edge technologies. We can take advantage of smart devices that are inexpensive & durable, which use wired & wireless connectivity options.
At the Present time smart phone has turned out to be a savior, a basic optimization scheme was identified to design shopping guide offline as per users wish at billing counter. After verifying the bill payment the packed bags will be handover to the user.
Implementation of this system requires corei3 processor, 160GB hard disk, 4GB RAM, jdk 8 or above for JAVA platform, Xamp/MySQL workbench for MySQL database, Apache tomcat server 7.0 for database servlets, android studio for android programming.
The running system should have Windows or Linux operating system. It should be flexible foe chrome & Mozilla Firefox etc. The system should have modem drivers for internet connection.

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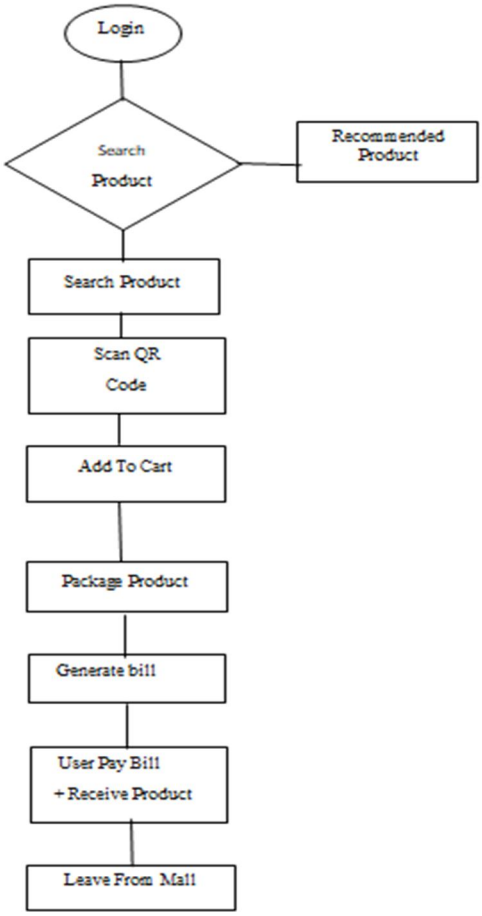


Fig1. Workflow of system

System run on smart phones with the help of QR code generation & recognition technology. QR code is arising technology which is capable of storing information of product. QR-code (Quick Response) helps to make system automate Proposed system also reduce efforts of customer & cashier at the time of billing. For well-organized shopping system, exclusive QR codes are produced to record the product name, number, location, detailing of goods. Smart phone reads the QR code through the mobile camera. This system read the QR code of the scanned product & add it to the shopping cart. Customer can change the quantity of product purchased & edit the list. Customer can also remove the purchased product from the list. Also, the customer would be informed about the on-going offers on the products in the store. Payment mode is according to customer wish.

This system will definitely be useful for your shopping premises.it brings employees to a next level with smart methodology. It will help to develop business & more customer engagement.

II. ARCHITECTURE

In this paper, we develop a QR code based effective shopping system. In this system, First user have to download and install this application on android phone and login into the application with correct incredentials. Whenever the user enters the mall the products with relative QR code are already made available at the mall for shopping. Then user scans the QR code of product he wish to buy and add it to the cart. User can change quantity of bought product. User will also get recommendations of related product & also path to that product given manually by managers of mall. The product added to the cart will be displayed to the management of mall by notification at the server. User can add or delete the scanned products from the cart. The limit to bought product is given to user to avoid the rush of managing staff at backend after clicking continue user can add further products he want to buy to the same cart. After clicking finish button it is assume that shopping is completed & further process of billing is done.

As soon as the notification received from the customer at backend by the packaging staff they will start packing the stuff. After receiving the finish notification, the packed products of relative cart are transferred to the billing counter with generated bill. Payment can be done online or

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III. LITERATURE SURVEY

QR code is abbreviation of Quick Responses. Basic Problem with the existing projects is that, they have non-interactive environment. The system which had already developed does not provide detailed record of all user. Also customer face problem like rush in mall while handling product in mall and space in mall. The development of QR code based system will allow user to scan QR code to complete end to end Business. This kind of system is available 24✕7 days and at the same time it is cost efficient.

Implementation of this system was reported in [1]. Framework is utilized to ease lines in shopping center by using barcode for billing. A bar codes systematically represent data by varying the width and space of parallel lines, and may referred to linear or one dimensional **(**1D).

According to literature review and analysis of previous chapter [1], paper [2] establish a model on the effect of the way of recommendations system and recommendation performance on customer online experience.

Paper [3] focus on the enhancement of the existing five-layer Aml model by adding privacy management layer that is critical in numerous application scenario.

Paper [4] contains details about all the shops inside a mall, available items, customer wish list and map. It consists of mobile application developed using Android and a Server side module which act like main database server for connecting customers and shop owners. In this paper [4] both modules communicate with web server.

Description in paper [5] is seems rather contradictory that a field with so many challenges still to be address to continue to expand, to grow in different direction, most likely finding new challenges.

Main objective of paper [6] of system is to provide a technology oriented approach which pocket friendly, scalable for assisting shopping. Model [6] can be used in shopping malls to solve the rush at billing counter.

Paper [7] includes Exclusive QR code produced to record the article name, number, location, detailing of goods placed through the scanning of QR code by smart phone camera.

IV. CONCLUSION

With developing technologies, we can see a different types of automation in the software & hardware field that has already taken place and we can see the upcoming virtual world where there is less human efforts. The proposed system is useful for both customer and mall managers. By using this system, time required for purchasing product is reduced. It minimizes the efforts required for billing. There is no need to wait in the queue.

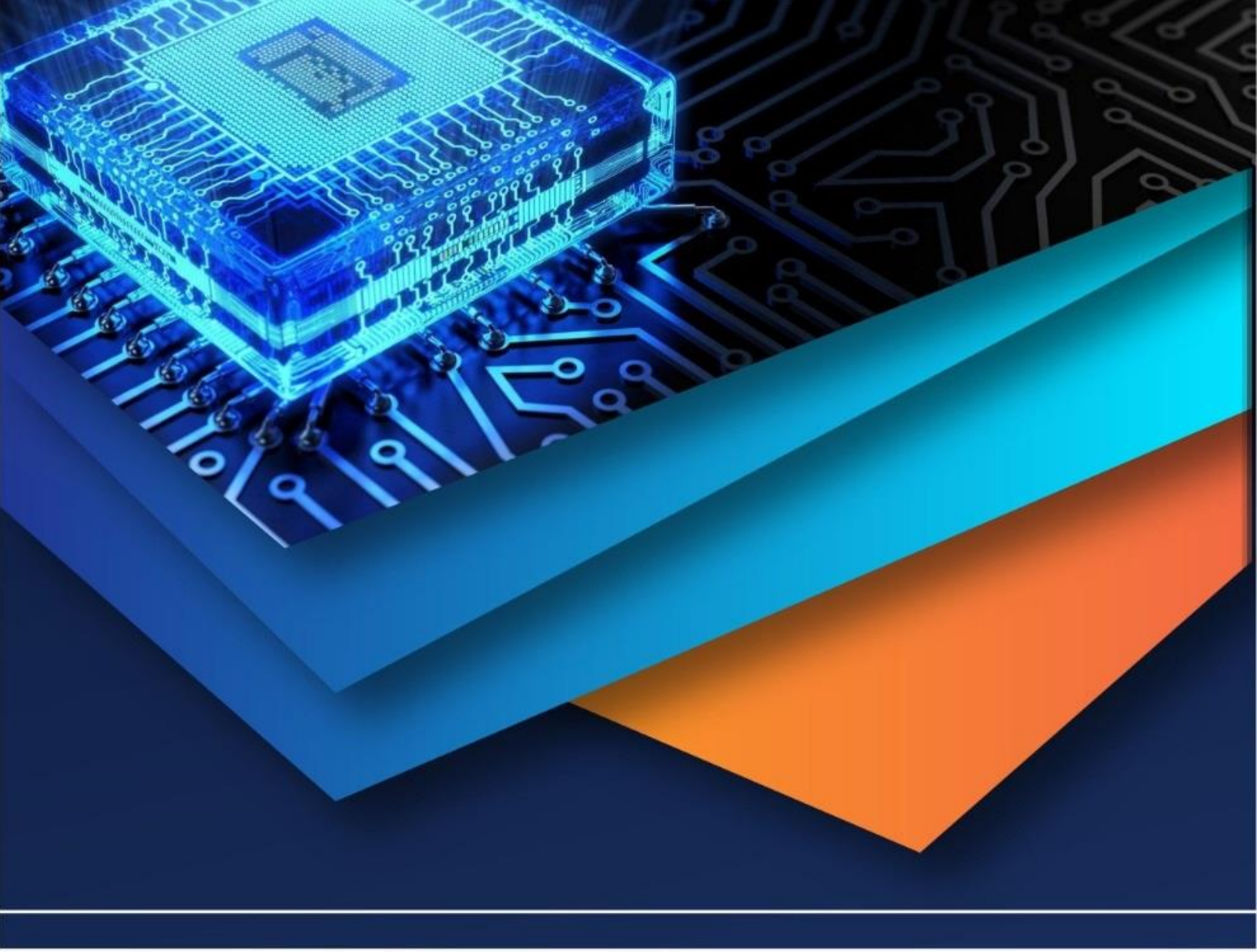
No any extra hardware is required. We can overcome the rush at the billing counter. It helps in business promotion for the supermarket by gaining more customers by providing quick service.

User needs the proper internet connectivity while using this app.

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